SECTION 08527 - ALUMINUM JALOUSIE WINDOWS

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

As specified in Section 00700.

1.02 GENERAL REQUIREMENTS

A. The Contractor shall visit the job site to verify the site conditions and dimensions prior to fabrication.

B. Fabrication and installation of jalousie windows shall be done by skilled and experienced mechanics to the best standard of the trade and in accordance with the approved shop drawings.

1.03 SUBMITTALS

A. Sample Mock-up:

1. A complete sample mock-up of the jalousie window, minimum size of approximately 16" wide x 16" high, together with manufacturer's technical specifications shall be submitted to the Engineer for approval before installation.

2. Reference to a current sample in the Engineer's Office may be made in lieu of submittal of the sample mock-up provided such sample is exactly in accordance with the product to be furnished.

B. Shop Drawings:

1. Shop drawings showing each window condition, installation details and location of operators shall be submitted.

1.04 PRODUCT HANDLING

Provide adequate protection during fabrication, shipment, storage, assembly and erection to prevent damage to the jalousie window assembly and adjacent surfaces.

1.05 DRAWINGS AND SPECIFICATIONS

Should the products of the manufacturer require different drawings, details or other requirements, the Contractor shall provide shopdrawings and field adjustments at no cost to the State.

NOTES TO ARCHITECT

These specifications describe the quality of jalousies that the Public Works Division wishes to use for its buildings. It is tailored to the use of aluminum jambs attached to wood mullions and/or jambs. The head and sill shall be of wood, not aluminum.

However, if the project is in an area of known termite infestation, provide individually sectioned full-surround frames (discontinous aluminum head and sill members). This will facilitate replacement by maintenance staff if the window is vandalized or damaged. Verify with your project coordinator if your project is in such a location.

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1.06 GUARANTY

The Contractor shall execute to the State of Hawaii a two-year written guaranty warranting materials and workmanship against mechanical defects not due to improper use, willful damage or neglect and guarantying the free operation of the jalousies under normal Hawaiian weather conditions. Repairs or replacement of defective equipment or parts as may occur within a period of two years from the date of final acceptance of the project shall be made at no cost to the State.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. The indicated products of the following manufacturers are acceptable provided they meet the materials and construction specified hereinafter:

| | |
|---|---|
| Aloha Visulite, Ltd. | "Visualite" 505 w/ metal lever arm housing. |
| Hawaii Metal Forming | Series 801 w/ Visualite Corp.type lever operator. |
| International Window Corporation | Series 750 |
| Gemini Window Corp. | Model 14. |
| Louver Windows Australia Trading | Breezeway |

Use of the Breezeway window has been approved by DAGS Central Services on a case-by-case basis (concern is that clips can be vandalized). Verify with DAGS Central Services if it is acceptable for use on your particular project.

2.02 MATERIALS AND CONSTRUCTION

A. Asbestos Prohibition: No asbestos containing materials or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos-free.

B. Jalousie windows shall be the aluminum "surround" type, jambs only.

Modify this requirement per guidance given under the "Notes to Architect" on page 1.

C. Jalousie window frames: Extruded aluminum sections of 6063-T5 alloy. Frame members shall be not less than 2-1/2" deep and shall be 0.075" thick with an extrusion tolerance acceptable to the trade of plus or minus 0.006". Minimum jamb thickness at the clip attachment shall be 0.10", and jamb shall be one continous vertical piece.

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D. Pivot clips: One-piece 5052-H32 aluminum alloy, minimum 0.050" thick, center balanced type. Clips for glass vanes shall be designed so as to permit glass loading from the inside without the use of spring tension expanders or attachers. Clips for wood slats shall be sized to permit the insertion of an 11/16" thick slat without rabbeting. Clips shall be spaced so that vanes or slats will overlap 1/2".

E. Push bar: 6063-T5 aluminum alloy, 5/8" wide x 3/32" thick or 1/2" wide x 1/8" thick.

F. Operator lever arm and connecting bar: Heavy duty type, 6061-T6 aluminum alloy other hard tempered aluminum alloy with minimum thickness of 1/8" or having lateral bending resistance equal or greater than that for specified units.

If special jalousies are used such as for gymnasiums where operators are of different construction, detail such operators completely.

G. Fasteners connecting the operator lever arm to the operator housing/bracket:

1. Where the fastener is supported on both sides of the lever arm by the operator housing/ bracket, the fastener shall be a minimum 3/16" diameter rivet or bolt (with nut).

2. When the fastener is cantilevered off of the operator housing/bracket (supported on only one side), the fastener shall be a minimum 1/4" diameter rivet or bolt (with nut).

3. Bolted fasteners shall be mechanically secured such that operation of the lever arm will not loosen them. The use of fastening compounds such as "lock-tite" is not acceptable.

4. Either the operator lever arm or the operator lever arm housing/bracket shall be detachable to allow repair or replacement.

Show location of all operators on interior elevations.

For jalousie windows located above high shelves, closets or cabinets, the lever operator shall be placed near the head so that it can be reached and operated with a pole. It shall NOT be located immediately above shelves, closets or cabinets where it is difficult to reach and operate.

H. Fasteners connecting the lever arm to the connecting bar and the connecting bar to the push bar: Minimum 3/16" diameter rivets or bolts (with nuts).

I. Fasteners connecting the operator lever arm housing/bracket to the jamb/mullion frame: The operator lever arm housing/bracket, if not integral with the frame shall be secured to it with bolts and nuts with lock washers or lock nuts. Sheet metal screw shall not be used.

NOTES TO ARCHITECT

J. Operator: Lever type. No more than 10 vanes or slats shall be operated by one lever. Operators located more than 6 feet above the finished floor shall have arms terminated with an eye or knob for operation by a pole. Edges of the eye shall be ground smooth.

K. Breezeway Jalousie Windows: Louver jamb frame to be an extruded channel section, 6063T-5 aluminum alloy.

Delete this paragraph if window has not been approved by DAGS Central Services for your particular project.

1. Blade holding clips shall be injection molded polypropylene stabilized to resist ultra-violet degradation. Color shall be _____.

Indicate color of clips (either black or white) to suit your particular project.

2. Pantograph operator bars shall be manufactured from zinc coated steel.

3. Lever handle shall be aluminum with plastic finish pieces on either side of the handle opening. The plastic pieces shall be permanently bonded together with adhesive and the lever shall lock upon closure.

4. Pivot bearings shall be forged from aluminum alloy and coated with grease where in contact with the frame and operator bars.

5. Aluminum finish shall be clear anodized.

L. Rivets shall be of anodized aluminum and bolts shall be of 300 series stainless steel.

M. Poles: Hardened aluminum, having suitable length and stiffness to easily operate th lever, and terminating in either a hook or eye as required to operate the lever. Minimum sizes of poles shall be as follows:

| Pole Thickness | Pole I.D. | Wall Thicknes | Remarks |
|---|---|---|---|
| Up to 10 feet | 1/2" | 0.058" | For "push-pull" use only. |
| | 3/4" | 0.114" | Where windows are above cabinets, |

Show the number and location of poles on the room elevations. Provide poles as follows:

| Room Type | No. Poles |
|---|---|
| Cafetorium | 4 |
| Kitchen | 2 |
| 1-Classroom | 1 |
| Ind. Arts | 2 |
| Small room (Office) | 1 |
| Large room (Conf.) | 2 min |

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| | | | |
|---|---|---|---|
| | | | shelves or closets. |
| Over 10 feet | 1" | 0.113" | ---------- |

Pole operators shall be provided where indicated on the plans. A wall hanger shall be provided and installed for each pole.

N. Weather stripping: Extruded plastic vinyl or maximum 7/16" wide strips of sheet stainless steel designed so that a weatherproof closure is attained on the sides of the window opening when vanes or slats are closed.

Do not specify mohair for weatherstripping.

O. Glass vanes: Vanes shall comply with UBC Section 5405, 4" wide x 7/32" thick with exposed edges weberized or ground smooth. Vanes shall be clear or obscure as called for in the plans.

Indicate "clear" or "obscure" on the window schedule. Do not use glass vanes over 3' in length.

P. **Slats: Slats complying with the following requirements are acceptable:**

**Delete those vanes / slats which are not applicable to your specific project.**

**Address finishing of wood slats in the PAINTING Section.**

**1.** Wood Slats: 4" wide redwood, clear all heart, kiln dried, vertical grain, with interlocking groove. Slats may consist of uniformly-cut pieces of the specified wood glued together either longitudinally or transversely with waterproof glue, provided they are identified to be painted in the finish schedule. Where transverse joints are provided, they shall be finger jointed. Each end shall be screwed to the pivot clip with two (2) aluminum or stainless steel wood screws. Slat thickness and clip size shall be as shown in the following table:

TABLE - REDWOOD JALOUSIE SLATS

| Width of Window | Thickness of Slats | Clip Size | Remarks |
|---|---|---|---|
| Up to 3'-0" | 11/16" | 11/16" | No end rabbeting of slats permitted. |
| 3'-0" to 4'-0" | 1" | 3/4" min. | End rabbeting of slats permitted. |

NOTES TO ARCHITECT

**2.** Vinyl slats: 4" wide x 3/4" thick, extruded PVC, with **interlocking grooves and internal** stiffening ribs. "B" blade design as furnished by RMA Sales Co., Inc., Coastal Windows or approved equal.

**a.** Minimum slat wall thickness: 0.045".

**b.** Minimum stiffening rib thickness: 0.020".

**c.** Approximate weight per foot: 5.5 oz. per lineal foot (without internal steel reinforcement).

**d.** PVC material shall be fire retardant, self-extinguishing and provided with an ultraviolet inhibitor.

**e.** Slats shall have an integral flexible vinyl weatherstrip at each interlocking groove.

**f.** Injection molded PVC end caps shall be provided to completely close each end of the slat. The caps shall have tabs which when inserted into the end of the slat will prevent the cap from falling out.

**g.** Color of the blades shall be _____, extending throughout the PVC material.

**Specify color (white or almond) to suit project. Do not specify dark bronze due to fading.**

**h.** Internal steel reinforcement:

**(1)** Slats longer than 36" but less than 48" in length shall be provided with a minimum of one (1) internal steel reinforcing member fitted between the stiffening ribs nearest the middle of the slat.

**(2)** Steel reinforcing members shall be electrogalvanized.

**(3)** Internal steel members shall be of sufficient cross section and thickness such that when the slat is laid flat between two end

supports, it shall be able to support a 40 pound weight suspended from its midspan with a maximum deflection of 7/8" (0.875").

**i.** Each end of the slat shall be secured to the pivot clip with 2 (two) aluminum or stainless steel sheet metal screws. Self-drilling screws are not permitted.

**3.** Aluminum slats:

**a. Nominal** 4" wide, extruded with **interlocking grooves and** stiffening ribs to provide 3/4" equivalent thickness and shaped to permit fastening to clips with two (2) aluminum or stainless-steel sheetmetal screws at each end of the slat. Stiffening ribs creating grooves on the backside of the slat shall be oriented downward so that it will not accumulate dust and debris. **Slats shall be as manufactured by Anodizing Inc. or approved equal.**

**b. As an alternative, slats may be tubular in profile, with an interlocking groove, extruded, with a cross section thickness of 3/4" and typical wall thickness of 0.045". Injection molded PVC end caps shall be provided to completely close each end of the slat. The caps shall have tabs which when inserted into the end of the slat will prevent the cap from falling out.**

**Slats shall be fastened to clips with two (2) aluminum or stainless-steel sheetmetal screws at each end of the slat. Slats shall be as manufactured by International Window Corp. or approved equal.**

**c. Each slat shall have an extruded vinyl weatherstrip along one edge, within the interlocking groove, to provide weather-tightness.**

**Indicate slat color to suit project. Delete finish not applicable to your project.**

NOTES TO ARCHITECT

**d. Color of slats shall be _____. Aluminum slats having an anodized finish shall be anodized to a minimum thickness of 0.0004". Aluminum slats having a painted finish shall be factory primed and painted in accordance with the manufacturer s standard.**

**Q.** Finish: All aluminum parts, including frame, clips, rivets, lever, operator, push bar, screen frames, etc., shall be "clear" anodized to a minimum thickness of 0.0004".

**R.** Dissimilar metals: Absolutely no dissimilar metals shall be used except as specifically permitted and spelled out in these plans and specifications.

Do not specify rolled screen frame sections.

Delete paragraph if not applicable to project.

**S.** Screens frames: Heavy-duty, rewireable type, 6063-T5 extruded aluminum alloy, 7 7/16" with a minimum wall thickness of 0.062". Corners shall be assembled using corner reinforcement. Screen frames 4'-6" in height and over shall have a horizontal spacer bar(s) having a similar section as that of the perimeter frame dividing the screen into equal sections. Screens shall be installed to permit quick and easy removal from the jalousie frame. No mutilation of the screen or screen frames will be permitted in mounting the window operator.

Do not use insect screens for gymnasiums.

**T.** Screen fabric: 14 x 18 mesh, fiberglass or aluminum alloy with an anodized finish. The mesh shall be held in place with rolled aluminum or vinyl splines as per the manufacturer's recommendation.

**U.** Screen frame corner reinforcement: Aluminum, of the type recommended by the manufacturer.

**V.** Screen retaining fasteners: Aluminum, single wing type with stainless steel screws. Fasteners shall be provided near the corners and at a maximum of 18" o.c. around the periphery of the screen frame.

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**W**. Angles, bars, etc.: Anodized aluminum, 6063-T5 alloy.

**X**. Anchors: As required to suit project conditions and as recommended by the window manufacturer. Stainless steel screws spaced at 18" o.c. shall be used to secure wind frames to concrete or masonry.

PART 3 - EXECUTION

3.01 INSPECTION

The Contractor together with the Engineer shall examine the areas and conditions under which windows are to be installed. Should any condition be found unsuitable, no work shall be done until the unsatisfactory conditions have been corrected and are acceptable to the Installer. Proceeding with work will imply acceptance of the conditions by the Installer.

For jalousie windows located above high shelves, closets or cabinets, the lever operator shall be placed near the head so that it can be reached and operated with a pole. It shall NOT be located immediately above the shelves, closets or cabinets where it is difficult to reach and operate.

3.02 INSTALLATION

A. Jalousie windows shall be installed in accordance with the manufacturer's instructions and recommendations.

B. Frames shall be cut to dimension, smooth, square, even and neat.

C. Window frames shall be shimmed about 1/8" away from concrete or masonry walls. Coat aluminum surfaces in contact with concrete, masonry or dissimilar metals with bituminous paint or a factory recommended separator to prevent galvanic action. Care shall be taken in the application of bituminous paint or separators so that coating is not visible when installation is complete.

D. Slats and vanes shall be cut to exact lengths (not short) to fit snugly into pivot clips. Clips shall not be bent out of alignment to accomodate short slats. Spaces exceeding 1/16" between the end of slat and the clip will be cause for rejection of the slat or vane.

Holes at the ends of vinyl slats for securement to the pivot clips shall be pre-drilled perpendicular to the slat and cleaned prior to

insertion into the pivot clips. Self drilling screws shall not be used.

E. Holes drilled into the push bar for connection of connecting bar shall be drilled accurately.

F. Screen frame corners shall be neatly mitered and assembled using corner reinforcement. Frames shall be square and plumb within the jalousie window.

G. Screen fabric shall be cut to size and installed neatly within the frame smooth and taut, without bulges or waves, held snugly in place with the splines. Excess fabric shall be neatly trimmed off.

H. Splines shall be neatly and uniformly rolled into the screen frame. Vinyl splines shall not be stretched during installation to avoid "shortening" of the the spline upon relaxing.

I. Screen retaining fasteners shall be securely fastened to the base frame and shall hold screen frames firmly in place.

J. Window frames and screen frames shall be notched as required to provide drainage for entrapped moisture.

END OF SECTION